Frugal Innovation:
How to do More (and Better) with Less

Jaideep Prabhu

Enterprise Tuesday
November 17, 2015
Unique Features of Indian Innovators

Frugal

Flexible

Inclusive
Thinking Outside the (Ice) Box

Source: http://gizmodo.com

Source: http://www.mitticool.in/
Thinking Outside the (Hot) Box
Jugaad Innovation

The art of overcoming harsh constraints by improvising an effective solution using limited resources

Gambiarra or jeitinho in Brazil
Kanju in Africa
Jiejian Chuangxin in China
Do-it-yourself (DIY) in the US
Systeme D in France
The Six Principles of Jugaad

1. Do more with less
2. Keep it simple
3. Think and act flexibly
4. Seek opportunity in adversity
5. Include the margin
6. Follow your heart
Social Entrepreneurs
Mansukh Bhai and the MittiCool Fridge

Miticool – Village Fridge

Innovator: Mansukh Prajapati
Gujarat

It is a fridge made from special clay. It has three chambers, one just for cooling water. It requires no electricity and is a perfect solution for rural areas.
Dr Mohan’s Mobile Diabetes Clinic

Source: http://www.drvmohan.com/

Source: http://www.worlddiabetesfoundation.org/composite-2731.htm
SELCO SOLAR

Posted On: April 16, 2009

SELCO Solar Pvt. Ltd., a social enterprise established in 1995, provides sustainable energy solutions and services to under-served households and businesses. It was conceived in an effort to dispel three myths associated with sustainable technology and the rural sector as a target customer base:

1) Poor people cannot afford sustainable technologies;
2) Poor people cannot maintain sustainable technologies;
3) Social ventures cannot be run as commercial entities.

SELCO aims to empower its customer by providing a complete package of product, service and consumer financing through grameena banks, cooperative societies, commercial banks and micro-finance institutions.
Large Indian Organisations
Tata and the Nano

Tata “Swach” Water Filter
Multinationals in Emerging Markets
GE and Affordable Innovation

ECG machine designed specifically for India’s rural markets

Portable, light, battery operated, reliable, cheap

Launched in China, and now in the US after having got FDA approval
Siemens: Foetal Heart Monitor
Siemens’ SMART Products

Simple, maintenance free, affordable, reliable, timely to market

Micro-processor cameras for Indian industrial markets

Processing lines in food industry or engine parts

Sees each biscuit in terms of colour and thickness
The Nokia 1100

Specifically for emerging markets:
   Dustproof keypad and front face
   Built-in flashlight

Over 200 million sold since late 2003

World's best selling handset and consumer electronics device
Doing more (and better) with less
Doing More (and Better) with Less

Photo: M-KOPA
Frugal Innovation in the West
Design for America and Swipe Sense

To solve problems in health care, education, and energy in the US

Hospital acquired infections: 2 million people
100,000 deaths each year
$2-4 billion dollars in costs to the healthcare industry
“Design intended to inspire schoolchildren and adults to program sees overwhelming demand as first versions go on sale”

“Demand for Raspberry Pi, the British £22 computer, crashes website”

Source: The Guardian
Prabhu Subramanian and CoLearnr
Frugal healthcare: CellScope

Photos: CellScope
The Rise of DIY Manufacturing
Simprints: ID to Access Patient Records
20 MILLION premature and underweight babies are born every year.

3 MILLION babies die within the first 28 days of life.

THE EMBRACE INFANT WARMER is an innovative solution to this problem that costs less than 1% the price of a standard incubator. OVER 600,000 BABIES have been helped across 15 countries.
The Maker Movement at the National Level

“Today’s Do-It-Yourself is tomorrow’s Made in America”
Frugal Agriculture: gThrive

Photos: gThrive
FabLab Barcelona’s Smart Citizen Kit

An electronic board based on Arduino equipped with the following sensors:

Air Quality
Temperature
Sound
Humidity
Light Quantity
How Can Large Companies do Frugal Innovation?
The Six Principles of Frugal Innovation

1. Engage & iterate
2. Flex your assets
3. Create sustainable solutions
4. Shape customer behavior
5. Co-create value with “prosumers”
6. Make innovative friends
Large Firms and Frugal Innovation
GE Taps Frugal Innovators Worldwide
GE Taps Frugal Innovators Worldwide
Barclays Accelerator with TechStars

Techstars selects 10 promising global fintech startups

Start-ups are housed in an accelerator for 13 weeks

They are mentored by Barclays Bank personnel

They pitch to Barclays’ strategic investment team

The new ventures stand to gain up to $100,000 investment and $200,000 partner perks
Conclusions
The Challenge for Large Organisations

Learn to do more with less

Learn to be agile

Learn to include excluded groups
The Challenge for Large Organisations

Give employees time and space to experiment

Engage with agile entrepreneurs

Create a jugaad mindset by engaging with emerging markets
The Challenge for Small Organisations

Learn to scale

Learn to partner with large organisations
Conclusion

The world needs frugal, flexible, and inclusive innovation

UK firms can gain by engaging with emerging economies

Large and small firms can work together to improve lives everywhere
Frugal Innovation Hub
http://frugalinnovationhub.com
@Frugal_Hub
@JaideepPrabhu